OUR BOOK SHELF

The Deviation of the Compass in Iron Ships considered Practically. By W. H. Rosser. Second Edition, with considerable additions. (London: James Imray and Son, 1887.)

REMEMBERING the number of books already published treating in a practical form of compasses, their deviations on board iron ships, and the consequent adjustments, some persons may be disposed to ask, "What purpose will be served by an addition to them?" In answer it may be said that this, the second edition of a useful work by an author who bases his knowledge on the teaching of the "Admiralty Manual," and knows from instructing others their many difficulties, can hardly fail to be welcome to those having neither time nor ability to assimilate the subject without a guide at every turn.

Whilst we hope that Mr. Rosser's later edition will be duly appreciated, there is a certain definition which, for the sake of simplicity and accuracy, we would fain see removed from it. At pp. 30 and 31, clear definitions are given of true, magnetic, and compass courses Why not let well alone, and not complicate the matter by introducing the term "correct" magnetic course? A reference to the later editions of the Admiralty publications on the deviation of the compass shows that the word "correct" in connection with "magnetic course" has been entirely omitted, apparently as no longer serving any purpose.

The concluding paragraph of the preface on patent compasses is hardly fair to Sir William Thomson's. The principles involved in the construction of his compass are not in themselves novelties, but he has done world-wide good by showing in it how that enemy of compasses—friction—may be avoided, whilst at the same time he has produced a card which is almost free from oscillation when the ship rolls heavily.

Travels in the Wilds of Ecuador. By Alfred Simson. (London: Sampson Low, 1886.)

"NO one with the spirit of roaming within him," says the author of this book, "can live long in Ecuador without cherishing a growing desire to explore its unknown parts." Some time ago, accordingly (the exact date is not mentioned), he started with a companion from Guayaquil for Baños, and from Baños they went through the forest to the village of Aguano, on the River Napo, completing the road in eighteen days' actual walking, or forty-five days' foot journey, including necessary stoppages. At Aguano they were obliged to remain forty-two days, which they spent partly in collecting Lepidoptera, partly in making voyages of discovery by land and water in search of provisions. They then made their way in canoes down the Napo to the Amazon, which they reached after a voyage of twenty-five days. At Iquitos the two friends parted, Mr. Simson's companion setting out to explore the Ucayali, while Mr. Simson himself joined a Mr. Reyes in an expedition up the River Putumayo.

The story is very simply and pleasantly told, and those who like to read about distant lands of which little is generally known, will find much to interest them in the author's record of his adventures. The best parts of the book are those in which he describes the Indian tribes of Ecuador, whose habits and modes of thought and feeling he closely observed. He also notes some rather curious facts in natural history. Probably few persons have ever heard of "the roaring of an alligator." "I heard it myself," says Mr. Simson, "on one occasion in the case of a huge beast who appeared to be following a female of his species." The animal was swimming very rapidly, diving and rebounding up to the surface of the water. Mr. Simson was in a small Rob Roy canoe, and remained still to watch his manœuvres. Immediately the alligator saw the canoe, he "came towards it, roaring like a bull at each bound above water." As he was diving, Mr. Simson (who was unarmed) forced the canoe straight over him, and so escaped. "Curiously enough," we are told, "not half an hour after this episode, an alligator jumped from a steep bank over my canoe, and only just cleared it, as I was distractedly paddling along under the shore, and inadvertently startled the reptile above me."

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.*

[*The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.*]

Tabasheer

AS I have occasionally found the curious stony plug of which Mr. Thiselton Dyer writes (NATURE, vol. xxxv. p. 396), in the joints of bamboos accidentally broken, and been much exercised as to the nature and origin of the phenomenon, I have been much interested by his paper. May I further suggest that it is to a certain extent pathological—due, that is, to *arrested growth*, either longitudinal or lateral, in the shoot next above the joint in which the stony secretion or sediment is found.

In the onrush of tropical growth in the young shoot, Nature, after flooring the knot, has poured in, as it were, sap and silica sufficient for a normal length and width of stem to the knot next above it. But by some check to the impulse, or irregularity of conditions, the portion of stem thus provided for is shorter or narrower than intended; and the unused silica is left behind as a sediment, compacted by the drying residuum of sap. It is a question only to be settled by close examination of a great number of examples.

Something like it occurs, however, in the case of our own wheat. Larger joints, that is, and stronger walls are commonly found where the length of stem between joint and joint is a short one. As in the bath for electroplating the same amount of silver is deposited in a given time on a single penny as on a tea service of many pieces, so in the case of quick-growing silicated stems it would seem as if the same average amount of material were provided by the mounting sap, and the constructive use actually made of it determined by many accidents. In the wheat stem the silica is differently placed; in the fiercely-growing bamboo shoot the mineral in excess is left behind in a crude form, and disregarded. That is what I should expect to find.

HENRY CECIL

Bregner, Bournemouth, March 1

Temperature and Pressure in Jamaica

THE following table of elevations and averages is not as perfect as might be wished, but as some years must pass before it can be greatly improved, it is here given as one of many results obtained by the Meteorological Service in Jamaica:—

Station	Elevation	Pressure	Max.	Mean	Min.	Range
	Feet	Inches	°	°	°	°
Kingston	0	30·00	87·0	78·2	71·0	16·0
Kempshot	1773	28·20	80·5	72·7	68·0	12·5
Cinchona Plantation ...	4907	25·27	68·5	62·6	57·5	11·0
Portland Gap	5477	24·71	69·0	59·7	54·6	14·4
Blue Mountain Peak...	7423	23·14	71·1	55 7	46·3	24·8

In NATURE, vol. viii. p. 200, it was suggested that the fall of temperature, δT was connected with the fall of pressure δP by the equation

$$\delta T = \lambda \, . \, \delta P,$$

where λ was taken equal to $3^\circ{\cdot}23$.

We can now correct this expression and take

$$\delta T = \lambda \, . \, \delta P + \mu \, (\delta P)^2,$$

where $\lambda = 2^\circ{\cdot}92$, and $\mu = 0^\circ{\cdot}08$. But these values relate to mean temperatures; for minimum temperatures $\lambda = 0^\circ{\cdot}96$, and $\mu = 0^\circ{\cdot}40$.

These expressions and their connection are important, and it

© 1887 Nature Publishing Group

would be interesting to know whether similar results have been found in India and elsewhere within the tropics, or may yet be obtained.

Computing δT by means of these formulæ, and applying the results to the temperatures at Kingston, we have

	Mean	Min.
Kempshot	72°·7	68°·0
Cinchona Plantation ...	62·6	57·5
Portland Gap	60·5	54·7
Blue Mountain Peak ...	54·4	45·6

which are fairly satisfactory.

Putting $\delta P = 30$ inches, the minimum formula gives $-311°$ as the temperature of space, the thermometer being shaded from the sun by any spherical body such as the earth or moon.

Putting $\delta P = 30$ inches, the mean formula gives $-81°$ as the mean temperature of a body devoid of atmosphere, such as a meteorite pursuing its course in space, or the moon, at the mean distance of the earth from the sun.

An expression for maximum temperatures cannot be as easily deduced; but if the surface of the meteorite or the moon which is turned from the sun be $-311°$, and if the mean temperature be $-81°$, it follows that the maximum temperature of the surface turned towards the sun must be about $+149°$.

Jamaica, February 12 MAXWELL HALL

Electricity and Clocks

IN addition to the plan pointed out by Prof. Sylvanus Thompson (the correct way to repeat from a striking clock to electric bells), I believe I have seen an arrangement in Dublin whereby a single port or going train only is made to strike the hours on an indefinite number of electric bells. I believe this mechanism is a patent. HORLOGE

Sandymount, March 2

Top-shaped Hailstones

ON August 6, 1885, a hailstorm occurred in this neighbourhood, during which two waterspouts were seen. After one of these had burst, a fall of hailstones, almost exactly similar to those described by Mr. Middlemiss in your issue of March 3 (p. 413), commenced and lasted for some minutes. I do not remember to have noticed that there was a mass of clear ice at the base of the cone, but the banding was very distinct.

Beside the horizontal stratification there was another perpendicular one, giving the hailstone the appearance of being composed of alternate cylinders of clear and white ice. If the hailstones which Mr. Middlemiss saw at Ramnagar showed this peculiarity, he will perhaps be kind enough to communicate the fact through your columns. Sketches of the hailstones which fell in this district were published in the *Meteorological Record* soon after the occurrence, but I cannot give the precise date of the copy. T. SPENCER SMITHSON

Facit, Rochdale, March 7

The Present Southern Comet

EITHER the present brilliant southern comet is periodic, or one of a large family of comets, moving in similar orbits and possessing marked similarities of structure. Its orbit, as far as an orbit can be determined from the approximate positions of a very indefinite nucleus, is similar to those of the 1843 and 1880 comets. In Grant's "History of Astronomy" the following description of the 1668 comet occurs:—"It appeared a little above the western horizon. The tail measured 23° in length, and resembled a huge beam of light. The head was so small as to be scarcely visible. The observations will be represented with sufficient accuracy by the elements of the orbit of the comet of 1843." A fairly accurate description of the present comet. There are other comets—1618, 1689, 1702—which possess this strong family likeness. If these comets be not one and the same, they must all have had a common origin. I do not know if it has been noticed that the aphelia of their orbits lie within a few degrees of Sirius. It may be possible that they have all been ejected from that gigantic sun; at any rate, it is impossible that they could have been attracted from nebulous masses lying beyond Sirius. A. W. R.

Lovedale, South Africa, February 1

The Earthquake

I EXAMINED my magnetograms very carefully on the day of the earthquake in North Italy, and I find no trace of any special disturbance on the H.F. trace similar to that on the Kew curve. It may be well to place this on record, as it may aid in fixing the limits of the disturbance. S. J. PERRY

Stonyhurst College, Blackburn, March 7

CEREBRAL LOCALISATION[1]

I.

IT is rather more than ten years since the first edition of this book came under review in the pages of this journal. And it was intrusted to very able hands, for the reviewer was George Henry Lewes, himself an experimentalist in this branch of physiology, and of the highest distinction as a philosopher and psychologist. The review is courteously but unflinchingly hostile: exception is taken to some of the facts and to most of the deductions of the author; although the value of the work, from its richness in suggestions as well as in facts, is ungrudgingly admitted. Mr. Lewes especially complains that the book "is so deficient in the indispensable correctives of counter facts and arguments, that the reader must be cautioned against accepting any position unless elsewhere verified. . . . From one cause or another there is a disregard of counter evidence, which, in a second edition, I should seriously urge him to rectify. . . . This disregard arises from no unfairness, but simply from the one-sidedness which comes from preoccupation with certain views."

The increased size of the work (498 pages instead of 323) is, no doubt, in part due to an endeavour to carry out this suggestion, although the growth of the subject may of itself, in great measure, account for such increase. Indeed, it must be confessed that the characteristic complained of by Mr. Lewes has not by any means entirely disappeared, and the student who may consult its pages must bear in mind that the book still remains the gospel of the functions of the brain "according to Ferrier."

The pervading idea of the work is expressed by the term "localisation of function." It was against this idea (and especially against certain applications of it) that Mr. Lewes brought to bear the full powers of his criticism.

One serious objection which was urged by him against many of Dr. Ferrier's results (those of localised extirpation) was that he was unable to keep the animals alive long enough to allow the effects of Disturbance of function to subside, so as to leave only the effects of Removal to be estimated. But the use of antiseptics has now permitted this objection to be removed, since there is no longer, in most instances, the same difficulty in preserving the animals, as was the case in Dr. Ferrier's first experiments.

It is further urged by the previous reviewer that "neither the effects of Disturbance nor the effects of Removal are to be taken as conclusive evidence that the function disturbed or removed is the function of the organ operated on." [But although not of themselves conclusive, yet if looked at in conjunction with other evidence they may furnish important indications regarding the function of the organ.] Mr. Lewes further affirms that "whenever a function persists or reappears after the destruction of an organ, this is absolutely conclusive against its being the function of *that* organ," meaning, of course, of that organ alone. That, in the case of recovery or reappearance, partial or complete, of a lost function, another organ previously possessed of a different function has vicariously taken its place, is a scarcely tenable hypothesis. And yet there are well-recorded instances of such reappearance: as in the case of Goltz's dogs, which recovered some of the lost power of voluntary movement; and in that of the visual disturbances which are caused by lesions of the occipital lobe, in which

---

[1] "The Functions of the Brain." By David Ferrier, M.D., LL.D., F.R.S. Second Edition, re-written and enlarged. (London: Smith, Elder, and Co., 1886.)

© 1887 Nature Publishing Group